

## 1. Background

The issue of economical scheduling of linked wheeled transactions was first presented to the Interjurisdictional Trading Standing Committee (IJTSC) at its September 2007 meeting and a Market Rule Amendment request was submitted to the IESO to permit participants to offer linked wheels economically. The submission can be found at <http://www.ieso.ca/imoweb/pubs/mr2007/MR-00338-Q00.pdf>. The IESO Technical Panel reviewed the submission and has assigned it a priority. The participant also presented an interim proposal to change the current requirement from +/-MMCP to a bid of +\$500 and an offer of -\$50. This proposal would reduce the congestion risk from a potential \$4000/MWh to \$550/MWh.

## 2. Purpose

The purpose of this discussion paper is to review and propose interim solutions that allow trader's to minimize their current congestion risk when linking transactions. In order to appreciate the complexities of this issue, this paper will first explain the current process, procedures, and explain the issues regarding the movement from the +MMCP bid and -MMCP offer requirement. Finally, without prejudice or limitation to the assessment of the long term initiative, the IESO will provide its recommendations and plan to move forward on this interim proposal.

## 3. Current Process and Procedure:

The current process was developed in consideration of a number of key elements including:

- Providing reciprocal access to through service.
- Respecting IESO controlled grid reliability requirements.
- Consideration to market efficiency and impact.
- Ability and complexity of the current solution.

Any assessment of the interim proposal will also consider these and potentially other elements worthy of consideration.

**a. NERC requirement:**

- Standard requirements for Interchange Scheduling and Coordination  
[http://www.nerc.com/~filez/standards/Reliability\\_Standards.html](http://www.nerc.com/~filez/standards/Reliability_Standards.html)
  - States that interchange transactions must be tagged from source to sink

**b. IESO requirement:**

- Market Manual 4.2 Appendix G  
[http://www.ieso.ca/imoweb/pubs/marketOps/mo\\_DispatchDataRTM.pdf](http://www.ieso.ca/imoweb/pubs/marketOps/mo_DispatchDataRTM.pdf)
  - These requirements echo the proper reliability standards

## **4. Linked Wheel Bid/Offer Requirements**

**a. Positive MMCP Bid Requirement**

The purpose of this requirement is to ensure that the bid (or export leg) was scheduled with the greatest level of certainty. The main reliability concern of the IESO with moving from the +MMCP bid requirement for the export portion of the linked wheel can be illustrated as follows:

The import and export portions of a linked wheel are evaluated and scheduled independently in the hour-ahead pre-dispatch. This means that either the export or import portion may be scheduled while the other portion is not. After the pre-dispatch run is completed, the IESO determines if one portion of a linked wheel is not scheduled, and if that is the case, the IESO is required to cut the remaining portion of the linked wheel as per NERC Reliability Standards. If the “other” portion of the linked wheel transaction is an import, scheduling protocols do not allow economic scheduling of another import (if available) to replace the cut import. As the IESO would then be relying on domestic resources, or in some scenarios emergency actions, to replace the cut import in real-time.

If the bid price requirement for the export portion of a linked wheel transaction is less than +MMCP<sup>1</sup> (i.e. <\$2000/MW), the probability of that export not being scheduled in the hour-ahead pre-dispatch increases. If Ontario is in a tight supply situation, the hour-ahead pre-dispatch would not schedule such an export when the pre-dispatch price is greater than the bid price. The hour-ahead pre-dispatch would still schedule the corresponding import to meet domestic demand. However, the IESO would then have to cut that import. Given the tight supply situation, cutting the import may result in Ontario having to rely on control actions in real-time.

Had the bid price requirement for the export portion been at +MMCP, the hour-ahead would have scheduled the corresponding import to supply that export and scheduled another resource (e.g. another import or additional domestic resources) to meet domestic demand.

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<sup>1</sup> The +MMCP bid also attracts the priority export treatment whereby the export leg will be scheduled even with non-synchronized OR shortfalls.

Once there is an understanding of the reliability concerns with the failed export leg, different approaches can be investigated. The following list contains suggestions with pros and cons from both reliability, economic and participant perspectives:

	Pros	Cons
1. No change to the current +MMCP	<ul style="list-style-type: none"> <li>• No reliability risk</li> <li>• No transaction failures</li> </ul>	<ul style="list-style-type: none"> <li>• Not flexible for participant</li> </ul>
2. Export bid requirement at a level where reliability is not significantly jeopardized.	<ul style="list-style-type: none"> <li>• Significantly reduces participant risk</li> </ul>	<ul style="list-style-type: none"> <li>• A number low enough creates the possibility of not getting scheduled – participant risk</li> <li>• Slightly higher reliability risk</li> </ul>
3. Original Proposal of +500 bid	<ul style="list-style-type: none"> <li>• Alternative congestion cost mitigation (partial)</li> </ul>	<ul style="list-style-type: none"> <li>• Unacceptable reliability risk</li> </ul>
4. Other...permitting the linked wheel as it was originally proposed (+500) to get scheduled in the 2 hour out pre-dispatch	<ul style="list-style-type: none"> <li>• Reduces participant risk</li> <li>• If scheduled in the 2 hour out pre-dispatch, the outcome of the last run would be similar to today</li> </ul>	<ul style="list-style-type: none"> <li>• From a reliability perspective, inability to react if a contingency would to occur between the 2 hour and 1 hour timeframes.</li> <li>• Reduces the effectiveness of NY and MISO protocols</li> <li>• Probable tool change</li> </ul>

Any migration from the current process of +/- MMCP will likely have an incremental increase in transaction failures. This increase will be a function of a new direction and will impact such concerns as dispatch issues and market efficiency.

***b. Negative MMCP Offers***

The purpose of this requirement is to ensure that the offer is scheduled. The only concern that the IESO has for moving from the –MMCP offers is during periods of Excess Baseload Generation (EBG). During EBG if the import transaction does not get scheduled, the export leg of that transaction will need to be curtailed as per NERC Reliability Standards resulting in the possibility of dispatching base load resources.

In order to achieve more flexibility for the participant, and be consistent with the participant’s original proposal, a proposal to offer up to - \$50 should be considered.

Making this change creates the need to assess other market and operational features to determine if any secondary changes need to be made. Providing the participant with this flexibility puts the failure of the linked wheel at least somewhat into the MP’s control. With this being the case, the application of failure charges is also an appropriate consideration. When the export leg is curtailed it may be appropriate under certain circumstance to apply a failure charge. This failure charge would be necessary given the available flexibility to the participant’s

offer and the fact that it is within their control to offer something in place of -MMCP. However, if the participant offers at -MMCP and fails to get scheduled, the failure charge for the export leg would not apply.

Moving away from the -MMCP requirement poses an issue regarding CMSC. As a result of scheduling differences between the market and constrained schedules, intertie transactions may attract congestion management settlement credits (CMSC). These payments would need to be clawed back as they would be inappropriate as per the Market Rule decision for eliminating Congestion Management Settlement Credits payments to linked wheeling through transactions. This rule amendment can be found at:

<http://www.ieso.ca/imoweb/amendments/urgentAmendprocess.asp>

A copy of the amendment is provided in attachment A.

## **5. IESO Recommendation**

The IESO recommends that the positive MMCP bid requirement not change due to reliability issues. As for the offer requirement, the IESO recommends that the participant's original proposal to change the minimum requirement to -\$50 be adopted, pending an internal review for implementation.

Note:

- Process changes internal to the IESO
  - If an import does not get scheduled due to internal constraints resulting in inappropriate CMSC, a manual process would be developed to properly tag code the change. This would also apply to such things such as the NYISO scheduling protocol.